REMARKS

Claims 1-10 and 18-22 are pending at the time of the examination. Claims 18-22 have been withdrawn from consideration and claims 1-10 are rejected.

Claims 1-6 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heugel (WO 2004/014636A1) in view of Manuel, et al. (US 6,587,742). The Examiner cited Heugel (US 2005/0263932A1) as the English-language equivalent of the PCT publication in issue. Applicant respectfully requests reconsideration of this rejection.

In formulating the rejection, the Examiner relied on Heugel to teach a tool chamber enclosing a sinter material, a laser system sintering said sinter material as a function of controller signals (item 21 – figure 1) wherein a controller generates signals to control the sintering and fabrication of multiple three-dimensional objects (paragraphs 0013-0014). The Examiner admitted that Heugel failed to teach that the specific controller used generates controller signals as a function of a predetermined tool design and failed to teach the elements of the tool sections, and relied on Manuel to overcome the deficiencies.

First, the applicant is not aware of any reference in Heugel to a controller that controls the laser system item 21 or any controller signals thereof. The only control device read by the applicant in Heugel (claim 4) controls the switch device that dictates the chamber to which the laser beam is to be directed.

Second, it is the applicant's position that Heugel can not be properly combined with Manuel to render the present invention obvious.

The present invention is directed to a system for carrying out selective laser sintering. Selective laser sintering is a method of building a physical object in a layer-by-

layer manner using laser-fusible powder from "a variety of materials including polystyrene, NYLON, other plastics, and composite materials, such as polymer coated metals and ceramics" (paragraph 0014).

Manuel is directed to a method and an apparatus for creating an object by selecting materials having a thickness, laser-cutting said material into the design of a section of the object, and bonding all the sections to form the object. The building blocks involved are not laser-fusible powder but are sheets of materials with a thickness. In particular, Manuel recites the "material may comprise steel" (column 5, line 47) which is certainly fit for the laser-cutting process but unsuitable for laser sintering. The manner a section is produced is not by bonding the fusible powder into a constituent layer but by cutting the sheet of material into a desired shape. In another word, Manuel is not related to laser sintering. *See* column 5, lines 40-47 of Manuel.

Therefore, Manuel is not in the same art as Heugel and combination thereof is improper. In another word, an artisan commissioned to solve a problem in laser sintering is not reasonably expected to consult the art in laser cutting.

Third, the Examiner stated "though Manuel, et al. may not teach that the tool design comprises joint components, receiving areas, holes or tongues such that these elements are used to couple together sections of the tools, such areas are obvious variations and dependent upon the actual tool being fabricated, and its design and components" (last full paragraph of page 4 of the Office Action). In essence, the Examiner has admitted both Heugel and Manuel fail to teach the tool designs comprises joint components, receiving areas, holes or tongues, and simply opined that such designs

are obvious without any support therefor in the cited references. The assumption of obviousness is therefore deemed improper by the applicant.

Therefore, the rejection of claims 1-6 and 9-10 should be withdrawn.

The Examiner rejected claims 7-8 under 35 U.S.C. 103(a) as being unpatentable over Heugel in view of Manuel, et al. and further in view of Masters (US 5216616). The Examiner stated that "Heugel and Manuel, et al. teach the characteristics previously described but do not teach that the tool is comprised of a heat sink positioned within said tool chamber or a buffer feature protecting said joint component" and relied on Masters to overcome the deficiencies. Applicant respectfully requests reconsideration of this rejection.

First, as argued above with respect to claims 1-6 and 9-10, Heugel and Manuel, either considered individually or in combination, fail to teach what the Examiner has stated.

Second, the applicant is unable to locate any reference to a heat sink or an equivalent thereof in Masters, either in the cited passages (col. 2, lines 22-27 and col. 6 lines 8-35) or the rest of the paper, and it is the applicant's position that such reference does not exist.

SUMMARY

In view of the above, reconsideration and allowance of the claims as amended are respectfully requested.

Respectfully Submitted,
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